UNITED STATES DEPARTMENT OF COMMERCE
Pat nt and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/009,455	01/20/98	MILLS R	9113-20US

IM51/0901

FARKAS & MANELLI, PLLC
2000 M STREET, N. W.
7TH FLOOR
WASHINGTON, DC 20036-3307

EXAMINER	
LANGEL, W	

ART UNIT	PAPER NUMBER
1754	20

DATE MAILED: 09/01/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/455	Applicant(s) Mills
	Examiner Langel	Group Art Unit 1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-280 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-280 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of References Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

DOUBLE PATENTING REJECTION

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ 2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-280 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17-299 of copending application Serial No. 09/009,837. Although the conflicting claims are not identical, they are not patentably distinct from each other because the difference lies only in the preamble of the claims, i.e., "a fuel" versus "an explosive material." The claims in both applications require a source of at least one hydrino hydride ion and a source of protons. Accordingly such a "fuel" composition would at the very least overlap with an "explosive material" composition reciting the identical elements in the main body of the claims.

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

35 U.S.C. § 101 REJECTION

35 U.S.C. § 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-280 are rejected under 35 U.S.C. § 101 because the disclosed invention is inoperative and therefore lacks credible utility. All the claims recite "hydrino hydride ion." Page 4 of applicant's specification defines "hydrino atom" or "hydrino" as a "hydrogen atom having the binding energy given in Eq.(2)", wherein Eq.(2) recites

$$\text{Binding Energy} = \frac{13.6 \text{ eV}}{n^2}$$

where n = 1/p and p is an integer greater than one. A "hydrino hydride" would thus constitute a hydrogen atom having new energy states that are below the conventionally accepted ground state energy. An asserted utility would not be considered credible where a person of ordinary skill would consider the assertion to be incredible in view of contemporary knowledge and where the

evidence offered by applicant does not counter what contemporary knowledge otherwise suggests. See MPEP § 2107.01. See the attached Appendix which shows the mathematical justification as to why conventional theory and experiment preclude the existence of hydrino atoms. It is emphasized that Endnote 1 of the Appendix shows that Schrodinger's wave equation mandates that the value of "n" must be a positive integer having the values 1, 2, 3, and so on, and Endnote 5 shows that fractional values for "n" are also impermissible in light of the Uncertainty Principle. The fourth full paragraph on page 19-14 of Bethe & Salpeter's Quantum Mechanics of One-and Two-Electron Atoms (Plenum Publishing Corporation, New York, 1977) states that the "ground state" of hydrogen has n = 1. It is clear from the foregoing that fractional values for "n" cannot exist according to conventional scientific theories. Once the Patent and Trademark Office shows through scientific reasoning that an invention is inoperative, the burden then shifts to applicant to provide satisfactory evidence of operability of the invention. Newman v. Quigg, 877 F. 2d 1575, 11 USPQ 2d 1340 (Fed. Cir. 1989).

35 U.S.C. § 112 REJECTION

Claims 1-280 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly

connected, to make and/or use the invention. The specification does not enable one of ordinary skill in the art to make or use a "hydrino hydride ion", in that it would require undue experimentation to do so. Factors to be considered in determining whether a disclosure would require undue experimentation include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. In re Wands, 858 F. 2d 731, 737, 8 USPQ 2d 1400, 1404 (Fed. Cir. 1988). Each of these factors outlined in Wands will be addressed as to their relevance to the lack of enablement for applicant's claims.

(1) The Quantity of Experimentation Necessary

Pages 65-69 of applicant's specification show that hydrino hydride was prepared during the electrolysis of an aqueous solution of K_2CO_3 corresponding to the catalyst K^+/K^+. However, U.S. Patent 4,337,126 (Gilligan, III et al.) (newly cited) is evidence that the electrolysis of potassium carbonate results in the production of potassium hydroxide and CO_2. (See especially column 6, lines 13-47 of Gilligan, III et al.) Lines 6-9 on page

68 of the specification state that "the sample was prepared by filtering the K_2CO_3 electrolyte from the cell described herein that produced 6.3 x 10^8 J of enthalpy of formation of hydrino hydride with a Whatman 110 mm filter paper (Cat. No. 1450 110) to obtain white crystals", and lines 13-17 state that "the sample was prepared by acidifying the K_2CO_3 electrolyte from the cell described herein that produced 6.3 x 10^8 J of enthalpy of formation of hydrino hydride with HNO_3, and concentrating the acidified solution until yellow-white crystals formed on standing at room temperature." However there are not sufficient details of the electrolysis conditions set forth on pages 65-69 which would allow one to simply filter the K_2CO_3 electrolyte or acidify the K_2CO_3 electrolyte with HNO_3 to obtain the hydrino hydride sample, rather than simply produce potassium hydroxide and CO_2 by the potassium carbonate electrolysis, as shown by Gilligan, III et al. In this regard, the specification must teach one of ordinary skill in the art how to make and use the invention, and not simply how to direct one how to find out how to make and use for himself. In re Gardner, 427 F. 2d 786, 789, 166 USPQ 138, 141 (CCPA 1970).

(2) The Amount of Direction or Guidance Presented

The direction or guidance provided in the specification is found on pages 65-69, which is insufficient for the same reasons

given hereinbefore with respect to factor (1). It would require undue experimentation for one of ordinary skill in the art to make and use the claimed invention. In short, the amount of direction or guidance is insufficient to obtain the claimed invention, as Gilligan, III et al. shows that electrolysis of potassium carbonate would be expected to simply result in the production of potassium hydroxide and CO_2.

(3) The Presence or Absence of Working Examples

The specification contains, on pages 65-108, examples of methods for forming and identifying hydrino hydride ions, which are a type of "increased binding energy" hydrogen species as recited in applicant's claims. It is unclear however whether applicant has actually formed and identified the variously recited species, since the Examples are directed to the electrolysis of aqueous K_2CO_3, which would, as stated above, produce KOH and CO_2. The present examples are thus not considered to be working examples.

(4) The Nature of the Invention

The scientific community has held the belief for decades that hydrogen cannot exist below the "ground state" (n = 1). (See the reasoning presented hereinbefore with respect to the rejection under 35 U.S.C. § 101 for inoperability.) Accordingly,

the nature of the invention is such that it would be startling if it were operative, thus requiring greater detail than that found on pages 65-108 of the specification for one of ordinary skill in the art to make and use the claimed invention without undue experimentation. Applicant himself points out that the Mills theory predicts the existence of a previously unknown form of matter: hydrogen atoms and molecules having electrons of lower energy than the conventional "ground" state, called "hydrinos" and "dihydrinos", respectively, where each energy level corresponds to a fractional quantum number. (See the paragraph bridging pages 13 and 14 of R. L. Mills, The Grand Unified Theory of Classical Quantum Mechanics (Black Light Power, Inc., New Jersey, 1999)).

(5) The State of the Prior Art

There appears to be no prior art showing hydrogen with a quantum number below 1, or even any prior art which would suggest that hydrogen with a quantum number below 1 could even exist in theory. The closest prior art to that disclosed in applicant's specification (see Gilligan, III et al., for example) show that hydrino hydride ions would not be formed. Also, see the attached Appendix. Applicant himself points out that the Mills theory predicts the existence of a previously unknown form of matter: hydrogen atoms and molecules having electrons of lower energy

than the conventional "ground" state, called "hydrinos" and "dihydrinos", respectively, where each energy level corresponds to a fractional quantum number. (See the paragraph bridging pages 13 and 14 of R. L. Mills, The Grand Unified Theory of Classical Quantum Mechanics (Black Light Power, Inc., New Jersey, 1999)).

(6) The Relative Skill of Those in the Art

Even the most highly skilled physicists were of the opinion that hydrogen cannot exist below the "ground state" (n = 1). See the attached Appendix.

(7) The Predictability or Unpredictability of the Art

It would be most unpredictable that the hydrogen atom could exist below the "ground state" (n = 1). (See the reasoning presented hereinbefore with respect to the rejection under 35 U.S.C. § 101 for inoperability and the attached Appendix.)

(8) The Breadth of the Claims

Since all the claims require the presence of at least one hydrino hydride ion, and it has been shown hereinbefore with respect to the rejection under 35 U.S.C. § 101 for inoperability that the hydrino hydride ion cannot exist, the claims are not enabled.

Considering all of the above factors, one skilled in the art could not make and/or use the claimed invention without undue experimentation.

Any inquiry concerning this communication should be directed to Wayne A. Langel at telephone number (703) 308-0248.

WAL:cdc

Wayne A. Langel

WAYNE LANGEL
PRIMARY EXAMINER
GROUP 110